



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

wet moss, the experiment may perhaps be sometimes made with much advantage; and I do not entertain any doubt that it might be made with perfect success.

Mr. Knight has subsequently informed me, that the transplanted buds of the peach-tree, even such as were single, and without a leaf bud, have set perfectly well in the open air.

On destroying Slugs in Gardens. By Mr. John Wilmot, F.H.S.

(From the Transactions of the Horticultural Society of London.)

Daily experience teaches us (and particularly in a season like last winter) the injury we receive from the slug, which, if left unmolested, will frustrate our most sanguine wishes, and too frequently, unperceived, not only injure, but totally destroy a crop, which the season will not permit us to replace. To exterminate those nocturnal depredators has been for many years my study; but I always failed in the attempt, through the means not being properly applied. The usual way at present practised is with lime strewed on the ground very early in the morning, or late in the evening, the thermometer not below 45°, they then are found in moist weather in abundance, on the surface of the soil, when scattering lime fresh slacked, or pulverised, will destroy a number of them, excepting rain comes to their assistance, which too frequently frustrates the design. As the principal time of their committing their ravages is in a rainy or a moist season, the very weather is unfavourable to the application of the lime, as it will act no longer as a caustic after lying on the damp ground even for half an hour. At the suggestion of my friend, Mr. Whately, the celebrated surgeon, I was induced to make a trial of lime-water, which I found greatly to exceed my expectations. I now not only propose, but strongly recommend it on an extensive scale, as I can prove it a saving of nine pounds out of ten, and it will entirely rid the land of those noxious vermin. The plan I recommend, is to take a small portion of fresh Dorking lime, and pour on it some hot water:

when thoroughly dissolved, add water sufficient to make it pass through a fine rose of a water-pot. Previous to the preparation, let a person take some peas haulm, (I give that the preference,) or any large leaves of the cabbage tribe, and lay them a pole distance from each other. If the weather permit, they will be found in abundance collected under the haulm, &c. both for shelter and food; as we always find them prefer vegetables in a state of stagnation to those luxuriant in growth: when properly collected, let a boy take up the haulm, &c. and by a gentle shake leave the whole of the slugs on the ground. The person with a water-pot and rose must then pour a very small portion of the liquor on them, and the boy in the meantime must remove the haulm, &c. to a different spot in the intermediate space. By pursuing this plan for one week, (when the weather is favourable,) I am perfectly satisfied the whole of them may be destroyed, as the least drop of the liquor will cause immediate death, whereas with lime they frequently leave a slimy matter behind, and escape. In the flower garden it will be found a great acquisition, by watering the edging of box, thrift, &c. for wherever it penetrates it is certain to kill, even in a rainy season. The first thing to be considered in any new experiment is the trouble and expence attending it; for however certain and efficacious the remedy, it is frequently overbalanced by the expence. In the plan I propose, the application is simple, the effect certain, and the expence trifling, which are objects worthy our consideration, as four middling sized watering-pots at one time will be found sufficient for an acre, allowing one pot to forty places; and when it is considered that a piece of lime, about two pounds weight, is sufficient for one pot, we may conclude that to any extent, (even in agriculture,) including labour, &c. the whole amount will not exceed five shillings *per acre*, to be passed over four different times, which if properly pursued, *I am certain*, will rid the land of the whole of them at any season of the year, excepting frosty weather. The haulms, if not used after the crop of peas is over, may be dried and put away for that purpose; the expence will then be found nearly as stated for one acre, (every thing convenient.)

Trouble in laying haulm, &c. wo- s. d.	
man and boy half a day each.....	1 0
Removing do. four different times,	
one quarter of a day each time.....	2 0
Lime.....	1 0

Total expense..... 4 0

Thus for 4s. *per* acre they may be totally destroyed, however numerous. I can vouch for the statement being correct, having practised it to an extent this winter, and strongly recommend it to the Horticultural Society.

An Account of Improvements made in Gas Lights. By Messrs. Sobolewsky and Horrer, at Petersburg.

(From the *Annales des Arts*, &c.)

The object of the experiments made by the authors was to see what kind of light could be produced by the combustion of wood in closed vessels, and by reducing it to charcoal.

The greatest difficulty consists in getting rid of the vapour that exhales from the gas, and in giving brilliancy and purity to the flame; for in all the trials made in Russia, and in other countries, the flame has always been feeble and blueish, but little luminous, and accompanied by a mephitic exhalation.

After many unsatisfactory attempts, Messrs. Sobolewsky and Horrer have at length completely succeeded, and can be certain of producing light by the gas that will be very bright, without any sensible odour or fuliginous exhalation. These facts being established, only the method of separating the gas remains to be described; and to shew the utility of this new method of producing light. A stove, of a particular construction, receives a cylinder of cast iron, which is filled with wood or chips, and which is afterwards hermetically closed in the part that receives the wood. Then the cylinder is heated as much as possible. By this extreme external heat the pure wood is decomposed, and becomes charcoal; and its other constituent parts, such as the acid, the hydrogen, and the carbon, are disengaged, and form, from the commencement of the operation, empyreumatic oil and acid, that is to say tar. Afterwards, in proportion as the heat augments, these substances, combining with the igniting principle or heat, produce carbonic acid and inflammable

hydrogen gas. All these parts, that are disengaged from the wood, pass out of the cylinder into a refrigerator, which is adapted to it. Here they cool, the empyreumatic oil and acid resolve into drops, and fall into the recipient. From thence the gas is conducted into water, in order to wash it; after which it is collected in a large reservoir, where it is ready for use.

Between this reservoir and lamps that are placed in apartments or open courts, a communication is established, by means of pipes of different sizes, which conduct the gas towards the lamps, as it is required, and which for this purpose are furnished with cocks. By opening a cock, and applying a lighted paper or candle to it, the gas inflames, and continues to burn at the orifice of the tube until it is entirely exhausted. Thus it may be employed to give light, either as actual fuel, or as a means of giving heat.

The heat of the cylinder is continued until the gas be entirely separated. This separation, when effected, demonstrates that the wood is totally reduced to charcoal; the cylinder is then suffered to cool, and the charcoal is taken out. If a fresh supply of gas be required, the cylinder is again filled with wood, and heated. This operation terminated, excellent charcoal results from it, besides a considerable quantity of acid and tar. The acid is known by the name of pyroligneous acid, and only differs from common vinegar because it is mixed with tar. When, by means of a chemical process, the acid and tar are separated, a perfect vinegar remains, which may be used for the same purposes as other ordinary vinegar. The empyreumatic oil that is separated in this operation is complete tar, and is proper to be used as such for every purpose.

A cubic cord of wood, equal to 2.135 French metres, reduced to charcoal by the process above described, produces 255 pounds, Paris weight, of the best charcoal; 70 buckets of acid of 20 *pouds*, produce 50 pounds, *poids de marc*, of tar. After the acid is properly purified, there remains 50 buckets of good vinegar.

The quantity of wood necessary for a stove that will heat a small cast iron cylinder, of a size to contain one-fortieth of a cubic cord, is nearly equal to the quantity that the cylinder receives; but in proportion as the dimensions of the cylinder are increased, the quantity of wood necessary to heat it externally diminishes greatly; so that for a cylinder which contains